Amendments to the Claims:

The claims are amended without prejudice or disclaimer to read as follows. This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently amended) A system for wireless communication and sensory monitoring comprising:

a plurality of nodes installed as a network, each of the plurality of nodes comprising:

an internode ~~transceiver~~ physical layer that is configured to manage ~~for~~ wireless radio frequency communication between the node and other nodes;

a wireless network ~~transceiver~~ physical layer separate from the internode physical layer that is configured to manage ~~for~~ wireless radio frequency communication with one or more wireless devices other than the plurality of nodes;

a common antenna coupled to both the internode physical layer and the wireless network physical layer via antenna management logic, wherein the antenna management logic is configured to direct the common antenna to transmit an internode radio frequency signal only in the direction of another of the plurality of nodes and to direct the common antenna to broadcast a wireless network signal to the one or more wireless devices;

one or more sensors for monitoring an environment of a structure; and

a processor coupled to the internode ~~transceiver~~ physical layer, the wireless network ~~transceiver~~ physical layer and the one or more sensors, the processor operable to exchange data with at least one of the other nodes via the internode ~~transceiver~~ physical layer, to exchange data with the one or more wireless devices via the wireless network ~~transceiver~~ physical layer, and to obtain and process data obtained from the one or more sensors coupled to the processor ~~and process the data~~; and

a wide area network bridge coupled to the plurality of nodes, the network bridge configured to receive data from the plurality of nodes and pass information to a computer network for processing.

2. (Currently Amended) The system of claim 1 ~~wherein the internode transceiver of each node comprises a transceiver~~ wherein the antenna management logic is configured to communicate using a beam steered transmission from the common antenna.

3. (Currently Amended) The system of claim 1 ~~wherein the internode transceiver of each node comprises a transceiver~~ wherein the antenna management logic is configured to communicate using a beam switched transmission from the common antenna.

4. (Currently Amended) The system of claim 2 wherein the ~~internode transceiver is coupled to~~ common antenna is a phased array antenna configured to form the beam steered transmission.

5. (Currently Amended) The system of claim 3 wherein the ~~internode transceiver is coupled to~~ common antenna comprises multiple microwave horn antennas configured to form the beam switched transmission.

6. (Currently Amended) The system of claim 1 wherein the internode ~~transceiver~~ physical layer is configured to transmit in the industrial, scientific and medical band.

7. (Currently Amended) The system of claim 1wherein the internode ~~transceiver~~ physical layer is configured to transmit at 60 GHz.

8. (Currently Amended) The system of claim 1 wherein the wireless network ~~transceiver~~ physical layer ~~comprises a transceiver that~~ is 802.11 compliant.

9. (Original) The system of claim 1 wherein the one or more sensor includes an audio transducer.

10. (Original) The system of claim 9 wherein the audio transducer is coupled to a spotlight antenna for broadcasting audible transmission in a narrow footprint.

11. (Original) The system of claim 10 further comprising a first grouping of one or more nodes of the plurality of nodes and a second grouping of one or more nodes of the plurality of nodes, the first grouping configured to provide for the reception and transmission of audible communication and the second grouping configured to provide for the reception and transmission of audible communication, the first grouping of one or more nodes and the second grouping of one or more nodes together forming a virtual private speaker phone.

12. (Original) The system of claim 10 wherein different audible transmissions are broadcasted based on the location of the node.

13. (Currently Amended) The system of claim 1 wherein the internode ~~transceiver~~ physical layer is configured to transfer information between each of the nodes in an ad-hoc fashion.

14. (Original) The system of claim 13 wherein the processor of each node of the network of nodes is configured to determine the ad-hoc transfer path based on the latency of the node and the latency of other nodes.

15. (Original) The system of claim 1 wherein the one or more sensors include a visual sensor configured to provide a visual record of an event in response to the receipt of a signal from at least one of the one or more plurality of nodes upon detection of the event by at least one of the sensor of the one or more sensors.

16. (Currently Amended) The system of claim 1 further comprising an RFID ~~transceiver~~ physical layer for directing the interrogation of ~~interrogating~~ RFID tags.

17. (Currently amended) The system of claim 16 wherein the RFID transceiver is coupled to the common antenna, and wherein the common antenna is a SPOCK antenna to transmit and receive RF signals.

18. (Original) The system of claim 1 wherein the wide area network bridge is coupled to connect the network to the Internet.

19. (Original) The system of claim 1 further comprising one or more wireless devices configured to join the network of nodes to provide additional functionality.

20. (Original) The system of claim 19 wherein the wireless device is configured to route transmissions from one node of the network of nodes to another node of the network of nodes.

21. (Original) The system of claim 1 where a first node of the network of nodes is configured to utilize sensors on a second node of the network of nodes that is not available on the first node.

22. (Original) The system of claim 1 further comprising a computer having a wireless transmitter, the computer configured to integrate into the network of nodes.

23. (Original) The system of claim 1 further comprising a contactless power system operable to provide power to the nodes with out the use of a wired connection.

24. (Currently Amended) A node for use in a communication and sensor network comprising:

an internode ~~transceiver~~ physical layer that is configured to manage ~~for~~ wireless radio frequency communication between the node and other nodes;

a wireless network ~~transceiver~~ physical layer separate from the internode physical layer that is configured to manage ~~for~~ wireless radio frequency communication with one or more wireless devices that are not other nodes;

a common antenna coupled to both the internode physical layer and the wireless network physical layer via antenna management logic, wherein the antenna management logic is configured to direct the common antenna to transmit an internode radio frequency signal only in the direction of another node and to direct the common antenna to broadcast a wireless network signal to the one or more wireless devices;

one or more sensors for monitoring an environment of a structure; and

a processor coupled to the internode ~~transceiver~~ physical layer, the wireless network ~~transceiver~~ physical layer and the one or more sensors, the processor operable to exchange data with at least one of the other nodes via the internode ~~transceiver~~ physical layer, to exchange data with the one or more wireless devices via the wireless network ~~transceiver~~ physical layer, and to obtain and process data obtained from the one or more sensors coupled to the processor ~~and process the data~~.

25. (Currently Amended) The node of claim 24 ~~wherein the internode transceiver of each node comprises a transceiver~~ wherein the antenna management logic is configured to communicate using a beam steered transmission from the directional antenna.

26. (Currently Amended) The node of claim 25 ~~further comprising~~ wherein the directional antenna is a phased array antenna configured to form the beam steered transmission.

27. (Currently Amended) The node of claim 25 ~~further comprising~~ wherein the directional antenna is a multiple horn antenna configured to form the beam steered transmission.

28. (Currently Amended) The node of claim 24 ~~further comprising~~ wherein the directional antenna is a multiple horn antenna configured to form a beam switched transmission.

29. (Currently Amended) The node of claim 26 wherein the internode ~~transceiver~~ physical layer is configured to transmit in the industrial, scientific and medical band.

30. (Currently Amended) The node of claim 26 wherein the internode ~~transceiver~~ physical layer is configured to transmit at 60 GHz.

31. (Currently Amended) The node of claim 24 wherein the wireless network ~~transceiver~~ physical layer comprises a transceiver that is 802.11 compliant.

32. (Original) The node of claim 24 wherein at least one of the one or more sensors includes an audio transducer.

33. (Original) The node of claim 32 wherein the audio transducer is coupled to a spotlight antenna to broadcast audible transmission in a narrow footprint.

34. (Original) The node of claim 33 wherein the node is part of a first grouping of one or more nodes and wherein there is a second grouping of one or more nodes, the first grouping configured to provide for the reception and transmission of audible communication and the second grouping configured to provide for the reception and transmission of audible communication, the first grouping of one or more nodes and the second grouping of one or more nodes together forming a virtual private speaker phone.

35. (Original) The node of claim 33 wherein different audible transmissions are broadcasted based on the location of the node.

36. (Original) The node of claim 24 wherein the node is part of a network of nodes configured to transfer information between each of the nodes in an ad-hoc fashion.

37. (Original) The node of claim 36 wherein the processor of each node of the network of nodes determines the ad-hoc transfer path based on the latency of the node and the latency of other nodes.

38. (Original) The node of claim 26 wherein the one or more sensors include a visual sensor for providing a visual record of an event, the visual sensor initiated by at least one of the one or more plurality of nodes detecting the event using another sensor of the one or more sensors.

39. (Currently Amended) The node of claim 24 further comprising an RFID ~~transceiver~~ physical layer coupled to the processor and the antenna management logic, and wherein the RFID physical layer is configured to interrogate RFID tags.

40. (Currently Amended) The node of claim 39 wherein ~~the RFID transceiver transmits and receives signals using~~ common antenna comprises a SPOCK antenna.

41. (Original) The node of claim 24 wherein the node is configured to receive power using a contactless power supply.

Claims 42 – 50 (Cancelled).

51. (New) A node for use in a communication and sensor network comprising:

an internode physical layer that is configured to manage wireless radio frequency communication between the node and other nodes;

a wireless network physical layer separate from the internode physical layer that is configured to manage wireless radio frequency communication with one or more wireless devices that are not other nodes;

an RFID physical layer separate from both the internode physical layer and the wireless network physical layer that is configured to interrogate RFID tags in proximity to the node;

a common antenna coupled to the internode physical layer, the wireless network physical layer and the RFID physical layer via antenna management logic, wherein the antenna management logic is configured to direct the transmission of a directional internode radio frequency signal on the common antenna only in the direction of another node, to direct the broadcast of a wireless network signal on the common antenna, and to direct communications between the node and any RFID tags in proximity to the node using the common antenna; and

a processor coupled to the internode physical layer, the wireless network physical layer and the RFID physical layer, wherein the processor is configured to direct the internode physical layer to exchange data with at least one of the other nodes via the common antenna, to direct the wireless network physical layer to exchange data with the one or more wireless devices via the common antenna, and to direct the RFID physical layer to interrogate the RFID tags using the common antenna.

52. (New) The node of claim 51 further comprising a digital signal processor separate from the processor coupling the internode physical layer and the wireless network physical layer to the antenna management logic.

53. (New) The node of claim 51 further comprising a sensor coupled to the processor, and wherein the processor is further configured to collect and process data obtained from the sensor.

54. (New) The node of claim 51 wherein the antenna management logic is configured to direct the transmission of the directional internode radio frequency signal using beam steering techniques.

55. (New) The node of claim 51 wherein the antenna management logic is configured to direct the transmission of the directional internode radio frequency signal using beam switching techniques.

56. (New) The node of claim 51 wherein the common antenna is a SPOCK antenna.